

Doctor of Philosophy Programme (DBS)

Ph.D. advertisement for Spring 2024 semester

Applications are invited from eligible candidates for admission to the Ph.D. program of the Department of Biological Sciences, IISER Kolkata. The details of the admission process are detailed below. Applicants are advised to go through the research areas available at the following link on the Institute website (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs>) as well as the department page (http://bio.iiserkol.ac.in/?page_id=5624).

The fields of research open to application in this round of PhD selections are given below, along with names of faculty members working in the respective fields:

Biophysics, Biochemistry and Structural Biology: For students interested in Cellular Biophysics, Structural Biology, Molecular Biophysics, Biochemistry/Chemical Biology, Structural Proteomics and Cell Signaling, Enzymology

- Amit Kumar Mandal (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/amitkm/>)
- Bidisha Sinha (<https://www.iiserkol.ac.in/~bidisha.sinha/>)
- Partha Pratim Datta (https://www.iiserkol.ac.in/~partha_datta/)
- Rahul Das (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rahul-das/>)
- Rituparna Sinha Roy (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rituparna/>)
- Supratim Datta (<https://sites.google.com/view/proteinengineeringlabiiserk/>)

Developmental and Stem Cell Biology: For students interested in Mesenchymal stem cell biology, Actin dynamics in Congenital Disorder, Metazoan Morphogenesis and Plant Molecular and Developmental Biology.

- Malancha Ta (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/malancha-ta/>)
- Mohit Prasad (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/mohitprasad/>)
- Sankar Maiti (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/spm/>)

Disease Biology: For students interested in Virology, Molecular Immunology, Epigenetics and Chromatin Biology, Gene Regulation, Neural Cell Biology, Neuroscience, Lysosome Biology & Related Diseases, Natural Killer cells, Immunotherapy, Cancer, Infectious Diseases, Ischemic Disease, Bleeding Disorder

- Amirul Islam Mallick (<https://www.iiserkol.ac.in/~amallick/>)
- Arnab Gupta (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/arnab-gupta/>)

- Babu Sudhamalla (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/s-babu/>)
- Rahul Das (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rahul-das/>)
- Rituparna Sinha Roy (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rituparna/>)
- Rupak Datta (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rupakdatta/>)
- Sumit Sen Santara (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/sumit-santara/>)

Microbiology and Marine Biology: Microbiology, Ecosystem Restoration and Marine Biology: For students interested in Marine Microbiology, Climate Change and Ocean Acidification, Microbial Ecology, Community and Ecosystem Ecology, Restoration Ecology including using Microbiome approach, Biodiversity Conservation, Wildlife Habitat Management and Bioremediation of contaminated ecosystems.

- Punyasloke Bhadury (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/pbhadury/>)
- Robert John Chandran (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/robert-john/>)

Synthetic Biology and Biotherapeutics: For students interested in synthetic biology, Biotherapeutics, enzymology and protein engineering, metabolic engineering,

- Supratim Datta (<https://sites.google.com/view/proteinengineeringlabiiserk/>)
- Rituparna Sinha Roy (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rituparna/>)

Theoretical and Computational Biophysics: For students interested in any branch of Theoretical Biology, including Theoretical and Computational Biophysics, Molecular Simulations, Bioinformatics and Computational Cell Biology. Those with an interest in Analytical Theory, and/or Computer Programming and/or Machine Learning are especially welcome.

- Dipjyoti Das (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/dipjyoti-das/>)
- Neelanjana Sengupta (<https://www.iiserkol.ac.in/~n.sengupta/>)

Behavior, Ecology and Evolution: For students interested in Animal Behaviour, Community Ecology, Biodiversity and Conservation, Marine Microbiology, Microbial Ecology, Chemical Ecology and Plant-insect Interactions.

- Anindita Bhadra (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/abhadra/>)
- Punyasloke Bhadury (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/pbhadury/>)
- Robert John Chandran (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/robert-john/>)
- Radhika Venkatesan (<https://www.iiserkol.ac.in/web/en/people/faculty/dbs/rv/>)

Note: Only those faculty members whose names are given above will accept students through this round of Ph.D. admissions. Therefore, before applying, students should check this list carefully to ensure that labs of their interest are available for admissions in this round. Applicants who list faculty not taking students or do not indicate a choice of lab may not be considered for shortlisting.

Minimum Eligibility Criteria

A1. Masters' (or B.E., B.Tech., M.Tech., MBBS) degree holders or equivalent (with **minimum 60 % marks**) in any branch of science including Physics, Chemistry, Mathematics, Biological Sciences, Ecology and Environmental Sciences, Pharmaceutical Sciences, Chemical Engineering or equivalent.

For applicants from SC, ST or PwD category: Applicants must have a minimum of 55 % marks in aggregate (overall percentage and not just in the majoring subject) or an equivalent CGPA.

Students whose final results in Master's or equivalent are yet to be declared can also apply. However, if selected, the offer for these students will be provisional, subject to their fulfilling the above criteria **at the time of admission.**

AND

Applicants must have any one of the following qualifications.

- Qualified a National Level Eligibility Examination that provides a 5-year PhD fellowship such as CSIR–JRF / UGC–JRF / DBT–JRF–A / ICMR–JRF / DBT–BINC–JRF / Rajiv Gandhi National Fellowship/ National Fellowship for Scheduled Caste Students by CSIR-UGC / National Fellowship for Higher Education of ST Students / National Fellowship for OBC Candidates / National Fellowship for persons with disabilities (NFPWD).
- **The aforementioned fellowships must be valid on December 31, 2023.**
- INSPIRE-PhD fellowship (**Should be in possession of provisional selection letter at the time of Interview**).

Institute-funded Ph.D. positions:

In the laboratory of Supratim Datta: An Institute-funded Ph.D. position is available in the laboratory of Dr. Supratim Datta. The project involves construction of biosynthetic pathways for green synthesis of

important molecules and to study the mechanisms of enzymes and further import into genetically engineered microorganisms. The project involves the use of a combination of enzyme engineering, biochemical and biophysical characterization, structural and computational biology, and genomic and proteomic discovery to identify enzyme targets. Collaboration with computational groups is routinely undertaken. Candidates are encouraged to be familiar with lab publications and contact the PI for any queries.

Essential qualifications: M.Sc/MS/ME/M.Tech/ degree or equivalent with Master's degree or equivalent (with minimum 60 % marks) in chemistry/ Physics/ Biophysics/ Biochemistry/ Bionformatics/ Biology/Statistics/ Engineering or other relevant fields. The candidate should have qualified for one of the National eligibility exams like GATE/NET-LS/ IIT-JAM, etc.

Desirable skills: The ability to develop and implement plans for complex experiments, strong problem-solving skills, and a commitment to excellence in research. Experience in molecular biology, synthetic biology, protein engineering would be an advantage.

Shortlisting and Interview Process

Please note that fulfilling the minimum essential criteria does not ensure interview shortlisting. The PI's in DBS may set additional shortlisting criteria based on the candidates' academic records, experience, and research experience.

Only those candidates who have been shortlisted for the interview stages will be informed of further details. Therefore, all candidates are requested to check this page (**link to results page should be included**) regularly for updates.

DBS Autumn 2024 Ph.D. Timeline:

Ph.D. application portal opens: 22.09.2023

Application portal closes: 19.10.2023

Tentative date for publication of shortlist for Interview: 31.10.2023

Interview dates: Nov 21 - Nov 22, 2023

Publication of Ph.D. interview results: By 11.12.2023

Pre-registration portal opens: 18.12.2023

Pre-registration deadline: 27.12.2023